

**DELAWARE RIVER BASIN COMMISSION
FLOOD ADVISORY COMMITTEE SUMMARY**

February 11, 2009

The February 11, 2009 Flood Advisory Committee (FAC) meeting began at 10:00 AM at the Commission office (DRBC) in West Trenton, NJ. Jason Miller of the U.S. Army Corps of Engineers chaired the meeting.

A. Introductions and Review of the Draft Minutes from the November 5, 2008 meeting

The minutes were approved conditionally with any corrections or changes to be sent to DRBC within two week's time. The summary will be posted on the DRBC web site. Tapes of the meeting may be reviewed upon request.

B. Hydrologic Conditions Report

A presentation of the current hydrologic conditions was given by Amy Shallcross DRBC.

The annual precipitation for 2008 in the upper and central part of the basin was approximately 5 inches above normal, whereas, the lower basin was approximately 2.37 inches below normal. The year-to-date precipitation over the entire basin for 2009 was ~2.5 inches, which ranges from 1.25 – 1.4 inches below normal for the entire basin.

As of February 10, 2009, the total storage for the NYC Delaware reservoirs was 220 BG; Cannonsville was at 78.3%, Pepacton at 84.7% and Neversink at 75.4%. Both Cannonsville and Pepacton were releasing at L1-b levels and Neversink was releasing at L1-c. The USACE reservoirs in the lower basin storage (Beltzville and Blue Marsh) were at or slightly above their normal pool indicating that all of flood control storage in the two reservoirs was available.

As of February 5, 2009, the salt line (7-day average river mile location of 250 mg/l chlorides) was at river mile 75 which is seven miles upstream of its normal position at 68 miles. The next one-three month outlooks show an equal probability of experiencing either higher or lower than normal temperatures and precipitation.

There was a watch issued for ice jam flooding in the upper part of the basin. As of February 9, 2009, the ice jam at Montague extended about 8-9 miles in length (from Montague to Matamoras) and was causing about 4 feet of backwater at the Montague gage. Earlier in January, the Delaware River in Trenton did exhibit some ice jam buildup but that has since broken up.

Ray Krudzlo from the NWS reported on a special weather statement issued on February 10, 2009 that stated the basin is expected to receive about one tenth to ½ of an inch of rain. Because of the warmer temperatures, there will be some melting of the ice/snow pack. With up to 3 inches of snow water equivalent in the headwaters, a 3 foot rise is to be expected along the main stem Delaware by Friday, February 13, 2009. Flood potential associated with this event is low.

C. DRBC FY09 NWS Grant Application , Al Matte, NWS

Al Matte with the NWS reported that they have received a formal grant proposal from the DRBC for \$50,000 of the \$235,000 in FY-09 congressionally directed funds to NOAA-NWS for the Delaware River Enhanced Flood Warning System. The proposal is now in a series of reviews by the NWS. If it passes all of the review processes, the DRBC will use the monies to implement some of the flood warning recommendations from the July 2007 Interstate Flood Mitigation Task Force Report (FW-1, FW-2, FW-10, FW-11 and FW-12).

Laura Tessieri, DRBC, reported that the grant proposal included GIS support for the ongoing inventory and evaluation of the stream and precipitation gages by the NWS, compilation and outreach to emergency management personnel of high hazard dam emergency action plan documents, three full day education and outreach events geared to local and county emergency management personnel in the basin, and facilitation of flood coordination.

D. Floodplain Regulations Evaluation Subcommittee (FRES) Update – Jason Miller, USACE, Joe Ruggeri, NJDEP and Dan Fitzpatrick, PADCED

Joe Ruggeri, NJDEP, and co-chair of FRES gave a subcommittee update to the FAC. The first meeting of the subcommittee was held in November 2008. Dan Fitzpatrick, PADCED, is also a co-chair to the subcommittee. Currently, the agenda for the initial meetings is to brief the subcommittee on existing national, state and DRBC regulations and to discuss similarities and differences in the regulations. At the January 13, 2009 meeting there was a presentation on NFIP requirements, DRBC Floodplain regulations, and a guest speaker from ASFP, Kimberly Bitters, who spoke about the No Adverse Impact (NAI) principle. At the February 2, 2009 meeting, both NJ and PA presented on their floodplain regulations and on February 26, 2009, the subcommittee is scheduled to hear from NY and DE on their regulations.

Mr. Ruggeri emphasized that this subcommittee was formed by a request from NJ and PA Commissioners to implement recommendation FR-1 of the Delaware River Interstate Flood Mitigation Interstate Task Force report. The charge to subcommittee is to review and evaluate the similarities and differences in floodplain regulations throughout the Delaware River Basin, and to develop and present recommendations on the potential for more effective floodplain management throughout the basin to the FAC.

The composition of FRES includes 20 individuals representing varying representative groups; basin states, federal government, environment, riverbank property owners, education and outreach, builders association, farm bureau, chamber of commerce, flood mapping consultants and local officials from each state.

By the next FAC meeting the floodplain regulation subcommittee will have a report that will include a finalized comparison document and recommendations. That will be presented to the FAC at the next meeting and at that point the FAC will consider the recommendations and report their findings to the DRBC Commissioners. The Commissioners next scheduled meeting is July 2009.

E. Inventory and Evaluation of Precipitation and Stream Gages in the Basin (Rick Fromuth and Sol Summer, NWS)

Rick Fromuth gave a status report on the inventory and evaluation of precipitation and stream gages in the basin being performed as part of the FY08 congressionally directed funds for the Delaware River Enhanced Flood Warning System. This work was recommended by the Interstate Flood Mitigation Task Force.

DRB Task Force Action Plan Recommendations:

1. Recommendation FW-1.1 is to develop a comprehensive inventory of precipitation gages in the Delaware River Basin and identify locations where additional gages are needed. The initial work will focus on the existing gages used in the NWS river flood forecasting network; and the gaps in coverage that exist.

2. Recommendation FW-2 is to evaluate the existing river gage network in the Delaware River Basin for deficiencies. Develop an implementation plan for upgrades based on flood forecasting requirements and user input.
3. Recommendation FW7.2 is to evaluate and prioritize needs for establishment of new forecast points in the basin. Determine the need for upgrading existing stream gages or adding new gages. Initial work focuses on evaluation of river flood forecasting and the MARFC model forecasting network.

The work tasks are two-fold, 1) to create precipitation and stream gage inventory for the basin and 2) to look at deficiencies in the network. Agencies involved in this work include NOAA, USGS and DRBC. Coordination has occurred between NOAA/NWS (including eastern division headquarters, MARFC, and Binghamton and Mt. Holly Weather Forecast Office's, USGS DE, MD, NJ, NY, and PA water science centers, DRBC water resources management branch, planning and information technology branch and the FAC.

The deliverables for the first year of work are to update gage inventories, create GIS files and to issue a report containing a gap analysis for precipitation and stream gages, priorities for filling the gaps, evaluation of role of IFLOWS gages, proposed new forecast sites, and priorities for implementation. This report is expected to be complete by August 2009.

F. Delaware Flood Inundation Mapping (Jason Miller, USACE and Laurie Hogan, NWS)

Jason Miller, USACE began by updating everyone on the flood inundation mapping effort. The inundation mapping being developed is divided into seven reaches, according to NWS river gage influence. These include:

- Trenton
- New Hope/Lambertville
- Stockton
- Frenchtown
- Riegelsville
- Easton/Phillipsburg
- Belvidere

Trenton, New Hope/Lambertville and Stockton have been processed and submitted to NWS. They underwent a QA/QC check at USACE using Impact Statements & 1991 Flood Forecast Maps. Those sites are currently under review by the NWS. Frenchtown, Riegelsville and Belvidere have been processed, but are awaiting QA/QC. Easton/Phillipsburg processing is currently underway.

In addition to the inundation mapping, the USACE surveyed and collected structure information on approximately 3,000 structures in the regulatory floodplain of 10 communities ten (10) communities. These communities include:

- Easton, New Hope, Upper Makefield & Yardley (PA)
- Belvidere, Harmony, Lambertville, & Stockton (NJ)
- Colchester & Rockland (NY)

The communities were identified using a number of factors (FEMA repetitive loss, Corps studies, DRBC input). The field surveys collected first floor elevation, digital photos, type of building, value of structure and contents and Corps damage curves assigned to all structures. The structure information collected will be included as a GIS graphical user interface provided to government agencies (state, county, DRBC) for emergency management and flood mitigation planning purposes.

Structure Inventory collected thus far:

- Yardley: 282 residential structures, 35 commercial structures
 - Upper Makefield: 318 residential structures, 48 commercial structures
 - New Hope: 88 residential structures, 68 commercial structures
 - Lambertville: 109 residential structures, 63 commercial structures
 - Stockton: 95 residential structures, 33 commercial structures
 - Easton: 18 residential structures, 80 commercial structures
 - Harmony: 143 residential structures, 3 commercial structures
 - Belvidere: 73 residential structures, 20 commercial structures
- (nothing was reported on the NY communities at this time)

Laurie Hogan, NWS, discussed the QA/QC process that the NWS undergoes once Jason Miller hands over the inundation mapping to them. This process is necessary to ensure that the product meets all NWS requirements prior to posting online. It was reported that they recently trained more individuals to adequately QA/QC the product handed over by the Corps. Ms. Hogan brought up the Trenton test site electronically to show the committee a sample site of inundation mapping. The mapping graphically displays flooding intervals. Depending on the forecast issued at a NWS flood forecast point, a user can see what areas, streets, etc. are expected to be inundated both upstream and downstream of the gage. The inundation mapping also indicates the depth of flooding anticipated by shades of blue with the darker color indicating a greater depth of water.

A short 3 minute DVD produced by the NWS was shown that explains the inundation web site. It was discussed that education will be necessary for communities once the inundation mapping is finalized and available online. In addition, presentation to the counties or communities of the GIS tool being prepared by the Corps will be necessary. This tool displays the inundation mapping in addition to the structure data collected.

G. Outlining Future Goals/Priorities for FAC

Jason Miller, USACE, reminded the subcommittee of the priority issues that came out of the May 2008 federal summit. Mainly, priority issues were a flood analysis tool, flood forecast inundation mapping, enhancing the stream gage network and the issue of flood plain regulations. The subcommittee is also using the report issued by the Delaware River Interstate Flood Mitigation Task Force in July 2007 as a tool to identify future priorities for completion.

H. Opportunity for Public and Interested Party Comments

Amy Shallcross, DRBC, reported that the flood model being produced by the NWS, USGS and USACE has been delayed due to calibration issues.

Rose Wuenschel who is a representative of Steve Santarsiero's office introduced herself and mentioned that the representative is interested in flood mitigation, flood planning, and floodplain regulatory matters.

Mike Powell, DNREC, mentioned that at the last floodplain regulations evaluation subcommittee meeting, the subcommittee discussed the reality of floodplain regulations and different points of view regarding the implementation of regulations. He asked the FAC whether as a subcommittee, they should be concerned about making recommendations that might not be acceptable to every community within the basin? For example, a recommendation was being discussed that no new lots be created in the portion of a parcel that is within the floodplain. In parts of Delaware, this has been a regulation for 15+ years and is considered a common sense regulation. But, in other areas, this

may be a new proposal. Alan Tamm, PEMA, responded that the key phrase is responsible floodplain development. We want the subcommittee to look at responsible floodplain management from different angles without being concerned about implementation. .

I. Next Meeting

The next Flood Advisory Committee meeting is scheduled for Tuesday, May 19, 2009 at 10:00 am.

**FLOOD ADVISORY COMMITTEE
ATTENDANCE**

February 11, 2009

NAME	AGENCY
BRANDES, Kate	Nurture Nature Foundation
BURD, Dave	Lambertville Office of Emergency Management
DOUGLASS, Bill	Upper Delaware Council (UDC)
GOULD, A. Chris	NJ Dept. of Environmental Protection (NJDEP), Dam Safety and Flood Control
GRUBER, Hank	U.S. Army Corps of Engineers (USACE), Philadelphia District
HAINLY, Bob	US Geological Survey (USGS) – PA
HIGGINS, Kelli	NYS Dept. of Environmental Conservation (NYSDEC)
HOGAN, Laurie	National Weather Service (NWS), Eastern Region
Krudzlo, Raymond	National Weather Service (NWS)
LEAR, Kathy	NJ Office of Emergency Management (NJOEM)
MATTE, Al	National Weather Service (NWS)
MIHLBACHLER, Tom	Michael Baker
MILLER, Jason	U.S. Army Corps of Engineers (USACE), Philadelphia District
PEDRICK, Gail	Delaware Riverside Conservancy
PLACER, Katrina	Mercer County Planning
POWELL, Michael	Delaware Dept. of Natural Resources and Environmental Control (DNREC)
QUINODOZ, Hernan	Delaware River Basin Commission (DRBC)
REISER, Robert	United States Geological Service (USGS)
RUGGERI, Joseph	New Jersey Department of Environmental Protection (NJDEP)
SAFAFAR, Senobar	New York City Department of Environmental Protection (NYCDEP)
SCANNAPIECO, Alycia	Homeowner
SCHAFFNER, Mike	National Weather Service (NWS)
SCORDATO, John	New Jersey Department of Environmental Protection (NJDEP)
SHALLCROSS, Amy	Delaware River Basin Commission (DRBC)
SUMMER, Sol	National Weather Service (NWS)
SURO, Thomas	United States Geological Service (USGS) - NY

TAMM, Alan	Pennsylvania Emergency Management Agency (PEMA)
TESSIERI, Laura	Delaware River Basin Commission (DRBC)
WILSON, Kerry	Pennsylvania Department of Environmental Protection (PADEP)
WINSLADE, C. William	Yardley Borough Manager & Emergency Management Coordinator
WNEK, Patti	National Weather Service (NWS)
WUENSCHHEL, Rose	Rep. Steve Santarsiero